FOR CLEAN AIR

REPORT ON FY 2003/2004 ALLOCATIONS AND EFFECTIVENESS

BAY AREA AIR QUALITY



TRANSPORTATION
FUND FOR
CLEAN AIR

Bay Area Air Quality Management District 939 Ellis Street, San Francisco, CA 94109



State law requires that the Bay Area Air Quality Management District (Air District) Board of Directors annually review the expenditure of Transportation Fund for Clean Air (TFCA) revenues to determine their effectiveness in improving air quality. This report has been prepared in response to that requirement and summarizes TFCA funding allocations for fiscal year 2003/04 (FY 2003/04).

Major findings of this report are:

- TFCA funds have been allocated to eligible recipients for eligible projects consistent with the legislation which authorizes the TFCA program.
- In FY 2003/04, the Air District approved TFCA funding of \$28.3 million for 123 eligible projects and programs: \$18.1 million in Regional Funds (46 projects), and \$10.2 million in Program Manager Funds (77 projects).
- ◆ The \$28.3 million in TFCA funds allocated for FY 2003/04 includes \$22.1 million in calendar year 2003 Department of Motor Vehicle receipts, \$2 million in interest, and \$4.2 million in TFCA funds reallocated from previously funded projects that were canceled or completed under budget.
- ◆ The estimated lifetime emission reductions for the projects funded in FY 2003/04 are 525 tons of reactive organic gases (ROG), 898 tons of oxides of nitrogen (NOx), and 135 tons of particulate matter (PM). Combined lifetime emission reductions for the three pollutants total 1,558 tons.
- The aggregate cost-effectiveness of all TFCA projects funded in FY 2003/04 is \$18,155 (TFCA dollars) per ton of emissions reduced (lifetime ROG, NOx, and PM).
- ◆ Since the inception of the TFCA program in 1992, the Air District has allocated a total of \$258 million in TFCA funds to 1,614 projects.

The Challenge

On-road motor vehicles, including cars, trucks, and buses, are the most significant source of air pollution in the San Francisco Bay Area. Vehicle emissions contribute to unhealthful levels of ozone (summertime "smog") and particulate matter.

To protect public health, the State Legislature enacted the California Clean Air Act in 1988. In response, the Air District, in cooperation with the Metropolitan Transportation Commission and the Association of Bay Area Governments, prepared the *Bay Area* Clean Air Plan (CAP). To reduce emissions from motor vehicles, the CAP contains transportation control measures (TCMs) and mobile source measures (MSMs). A TCM is defined as "any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions." Mobile source measures encourage the retirement of older, more polluting vehicles and the introduction of newer, less polluting motor vehicle technologies.

One Solution

To fund the implementation of TCMs and MSMs, the State Legislature allows air districts to impose a surcharge on motor vehicle registration fees paid within their jurisdictions. For the San Francisco Bay Area, the annual surcharge is \$4 per vehicle and applies to over 5 million vehicles registered in the region.

Revenues raised by the surcharge are allocated by the Air District through the Transportation Fund for Clean Air (TFCA). TFCA funds may only be awarded to public agencies, such as cities and counties, transit districts, school districts, and the Metropolitan Transportation Commission.

TFCA projects have many benefits:

- Reducing air pollution, including air toxics, such as benzene
- Conserving energy and helping to reduce carbon dioxide emissions
- Improving water quality by decreasing contaminated runoff from roadways
- Improving transportation options
- Reducing traffic congestion

State legislation restricts Bay Area TFCA funding to the following types of projects:

- Implementation of ridesharing programs
- Clean fuel school and transit bus purchases or leases
- Feeder bus or shuttle service to rail and ferry stations and to airports
- Arterial traffic management
- Rail-bus integration and regional transit information systems
- Demonstrations in congestion pricing of highways, bridges and public transit
- Low-emission vehicle projects
- Smoking vehicles program
- Vehicle buy-back scrappage program
- Bicycle facility improvement projects

The Process

In calendar year 2003, \$22.1 million in new funding was received from the \$4 surcharge on motor vehicle registrations. Additional funds were available from interest earned on TFCA funds and from prior projects that were completed under budget, withdrawn or canceled.

Each year the Air District distributes TFCA funds through **two processes**.

Sixty percent of the TFCA funds are referred to as "Regional Funds." The Regional Funds are used to fund eligible programs that are implemented by the Air District, such as the Smoking Vehicle, Vehicle Buy-Back, and Spare the Air programs. The remainder of the Regional Funds are distributed to public agencies through a competitive process.

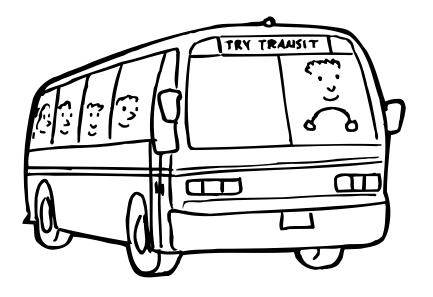
The Air District Board of Directors adopts criteria to evaluate and rank project applications for TFCA Regional Funds. The evaluation criteria for FY 2003/04 are shown below. Proposed projects are evaluated with respect to each criterion. Projects are ranked based upon their total point score, and projects are funded in descending order until available funds have been allocated.

Cost-effectiveness, expressed in terms of TFCA dollars per ton of reduced emissions, is the most important criterion for ranking projects. Board-adopted policy requires that all projects must achieve a cost-effectiveness of \$90,000 per ton or less (TFCA \$\$ per ton).

Forty percent of the funds generated in each Bay Area county are returned to the county's designated Program Manager, as mandated by the TFCA-enabling legislation. The 40% funds are referred to as "Program Manager funds." Program Managers adopt their own criteria to select projects for funding. In some counties, all or a portion of the TFCA Program Manager funds are allocated by formula as a direct subvention to cities within the county. Each city then selects an eligible project or projects for its share of the Program Manager funds.

The Program Manager projects are reviewed by Air District staff and submitted to the Air District Board of Directors for approval. Board-adopted policy requires that the projects in each Program Manager expenditure plan achieve a cost-effectiveness of \$90,000 per ton or less (TFCA \$\$ per ton) on an aggregate basis.

Scoring Criteria:	
FY 2003/04 Regional Funds	Points
TFCA Funding Effectiveness	60
Other Project Attributes	15
Clean Air Policies and Programs	10
Disadvantaged Community	10
Promote Alternative	
Transportation Modes	5
Total	100



Projects

In FY 2003/04, the TFCA program awarded \$28.3 million in grants. A total of \$18.1 million in Regional Funds allocations included \$8.6 million for six projects administered by the Air District (Appendix A) and \$9.5 million in grants to other public agencies for 40 projects (Appendix B). Grants totaling \$10.2 million in Program Manager Funds were awarded to support 77 local projects (Appendix C).

Clean air vehicle projects (light duty vehicles, heavy duty vehicles, and buses, as well as fueling infrastructure) received 12.1% of the total TFCA funds awarded. Filters for existing diesel engines received 3.3% of TFCA funds awarded.

Shuttle and feeder bus projects, connecting people between home, transit, and work, received 15.5% of the total available funding. Ridesharing projects, providing services and incentives to encourage the use of carpools and vanpools, received 15.5% of the funding. Bicycle facilities, including bike lanes, paths, routes, lockers and racks, received 15.4% of the total funds. Arterial management projects, including signal timing to smooth traffic flow received 9%. Smart growth projects (pedestrian and traffic calming projects), received 4.2% of the funds. Among projects administered by the Air District, the Vehicle Buy-Back program received 13.3% of the funds, Spare the Air received 2.9%, and the Smoking Vehicle program received 2.4%.

Category	# of FY 2003/04 Projects	FY 2003/04 TFCA\$	% of 03/04 TFCA \$	Emission Reductions, (tons) ⁽²⁾	% of Emission Reductions
Administration	10(1)	\$1,755,638	6.2%	na	na
Smoking Vehicle Program	1	\$692,616	2.4%	77	5%
Vehicle Buy Back Program	1	\$3,770,625	13.3%	588	38%
Light-Duty Vehicle Incentives	3	\$1,151,000	4.1%	9	1%
Spare the Air Program	1	\$822,076	2.9%	14	1%
Trip Reduction/Ridesharing	25	\$4,381,010	15.5%	87	13%
Smart Growth	3	\$1,187,188	4.2%	15	1%
Arterial Management	9	\$2,559,699	9.0%	59	4%
Bicycle Facilities	34	\$4,368,408	15.4%	59	4%
Shuttle and Feeder Buses	17	\$4,376,628	15.5%	64	4%
School Buses	2	\$1,030,000	3.6%	12	1%
Heavy-Duty Natural Gas Vehicles	2	\$457,636	1.6%	18	1%
Natural Gas Infrastructure	5	\$733,768	2.6%	na	na
Electric Vehicle Infrastructure	4	\$60,000	0.2%	na	na
Filters for Diesel Engines	6	\$938,840	3.3%	556	36%
TOTAL	123	\$28,285,132	100%(3)	1548	100%

na= not applicable No direct emission reductions are attributed to Administration or to infrastructure for clean air vehicles.

⁽¹⁾ The Air District and each of the nine counties have an "Administration" component of their TFCA programs. These are shown as "projects" in this table in order to account for the total TFCA allocations.

⁽²⁾ Lifetime emissions reductions of ROG, NOx, and PM10 combined.

⁽³⁾ Total equals 99.8% due to rounding.

Results

Emission Reductions

Air District staff estimates the emissions reduced over the life of every project that receives TFCA funding. The potential of each project to reduce motor vehicle emissions varies depending upon the type of project, the scale of the project, geographic location and other factors.

The total lifetime emission reductions expected from the implementation of projects receiving TFCA funding in FY 2003/04 is 1,558 tons – this represents the sum of ozone precursors (525 tons of ROG and 898 tons of NOx) and particulate matter (135 tons of PM10). This figure includes 586 tons of emissions reduced from projects to replace heavy duty diesel engines and to install filters on existing diesel engines.

Cost-Effectiveness

The cost-effectiveness of the TFCA program is calculated by dividing the TFCA funds allocated to projects by the projects' estimated lifetime emission reductions (ROG, NOx, and PM, combined). The result is TFCA dollars per ton of reduced emissions. The aggregate cost-effectiveness for FY 2003/04 TFCA allocations is \$18,155 per ton of reduced emissions. This compares to an aggregate cost-effectiveness of \$19,290 per ton of reduced emissions for projects funded in the FY 2002/03 cycle.

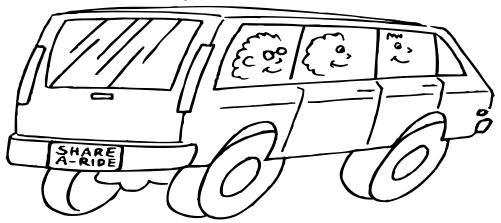
Factors Impacting TFCA Cost-Effectiveness

Air District staff used CARB's latest emission factors (EmFac 2002) to estimate the emission reductions for FY 2003/04 TFCA projects. The switch from EmFac 2000 to EmFac 2002 resulted in lower emission reductions for most projects submitted in FY 2003/04. This, in turn had a negative impact on costeffectiveness for most projects.

However, for the set of TFCA projects approved in FY 2003/04, the effect of the new emission factors was offset by large emission reductions associated with a grant to the Metropolitan Transportation Commission to install PM and NOx filters on transit buses. This project (03R58) resulted in an estimated 475 tons of NOx reductions. The exceptional costeffectiveness of this project (\$1,060 per ton) greatly improved the costeffectiveness for the FY 2003/04 TFCA program as a whole, reducing the aggregate cost-effectiveness for FY 2003/04 TFCA projects from \$25,645 per ton (without Project 03R58) to \$18,155 per ton (with 03R58 included).

Projects

Appendices A, B, and C list all the projects that received TFCA funding in FY 2003/04.



APPENDIX A: FY 2003/04 TFCA-Funded Air District Projects

Project #	Sponsor	Project Title	TFCA\$ Awarded
03R00	BAAQMD	Administration	\$1,280,052
03R01	BAAQMD	Smoking Vehicle Program	\$692,616
03R02	BAAQMD	Vehicle Buy Back Program *	\$3,770,625
03R03	BAAQMD	Spare The Air Program	\$822,076
03R04	BAAQMD	Vehicle Incentive Program *	\$1,000,000
03R57	BAAQMD	Low Emission School Bus Program (LESBP) **	\$1,000,000
		T O T A L: 6 projects	\$8,565,369

^{*} Greater than 95% of the funds for the Vehicle Buy-Back Program (Project 03R02) are "pass-through" funds from the Air District to vehicle owners and to contractors who implement the program. Similarly, all funds allocated to the Vehicle Incentive Program (Project 03R04) are awarded to public agencies to acquire light-duty clean air vehicles.

^{**} Public school fleets throughout the Air District are eligible to apply for LESBP incentives.

APPENDIX B: FY 2003/04 TFCA Regional Fund Projects

Proj#	Sponsor	Project Title	TFCA\$ Awarded
03R33	AC Transit	Shuttle Bus Service - Richmond/El Sobrante/Orinda BART	\$415,400
03R34	AC Transit	Shuttle Bus Service - MacArthur Corridor BART	\$700,000
03R54	Alameda County CMA	Arterial Management - Increase Transit Priority International Boulevard/East 14th Street	\$500,000
03R36	City of Antioch	Class 2 Bicycle Lanes - Hillcrest Avenue and Bus Station	\$98,600
03R14	City of East Palo Alto	Shuttle Bus Service - Dumbarton Bridge	\$71,440
03R35	City of Fremont	Class 2 Bicycle Lane - Fremont Boulevard	\$123,200
03R49	City of Half Moon Bay	Class 1 Bicycle Path - Highway 1	\$280,000
03R42	City of Hercules	Signal Timing - Sycamore Drive and Refugio Valley Road	\$296,000
03R43	City of Martinez	Class 2 Bicycle Lanes - Morello Avenue	\$175,000
03R24	City of Oakland	Coliseum Transit Hub Streetscape Improvements	\$303,188
03R11	City of Richmond	Signal Timing - Cutting Boulevard	\$361,000
03R41	City of San Carlos	Shuttle Bus Service - City of San Carlos	\$51,999
03R10	City of San Leandro	Traffic Calming - MacArthur Boulevard	\$455,000
03R44	City of San Leandro	Shuttle Bus Service - San Leandro LINKS	\$68,925
03R53	City of Santa Rosa	Class 2 Bicycle Lane - Santa Rosa Avenue	\$108,000
03R17	City of Sunnyvale	Class 3 Bicycle Route - Wolfe Road	\$41,900
03R18	City of Sunnyvale	Pedestrian Improvements - Frances Street Corridor	\$429,000
03R56	City of Sunnyvale	Sunnyvale Battery Back-Up System	\$27,500
03R26	County of Alameda	Class 2 Bicycle Lanes - Tesla Road	\$150,000
03R31	County of Alameda	Retrofit - Install Filters on 13 Heavy-Duty Diesel Trucks	\$44,840
03R22	County of San Francisco	Heavy-Duty Vehicle Replacement - 6 Norcal LNG Trucks	\$258,136
03R29	County of San Francisco	Install Bicycle Racks City-Wide	\$67,000
03R30	County of San Francisco	Class 2 Bicycle Lanes - Folsom and Illinois Streets	\$90,000
03R07	County of Sonoma	Class 1 Bicycle Path: Hunter Creek	\$209,313
03R16	Livermore Amador Valley Transit Authority	Shuttle Bus Service- LAVTA ACE and BART	\$41,474
03R05	Metropolitan Transportation Commission	Bicycle Trip Planner -Online Regional Map	\$75,000
03R06	Metropolitan Transportation Commission	Regional Rideshare Program	\$1,000,000
03R58	Metropolitan Transportation Commission	NOx/PM Filters for Transit Buses	\$512,000
03R27	Peninsula Corridor Joint Powers Board	Bicycle Storage Facility - 4th and King	\$100,000
03R28	Peninsula Corridor Joint Powers Board	Shuttle Bus Service - CalTrain Stations	\$942,641
03R48	San Francisco International Airport	Heavy-Duty Vehicle Replacement - 8 CNG Vehicles	\$199,500

APPENDIX B: FY 2003/04 TFCA Regional Fund Projects

Proj#	Sponsor	Project Title	TFCA\$ Awarded
03R52	San Jose State University	Trip Reduction Program	\$100,000
03R50	Santa Clara Valley Transportation Authority	Shuttle Bus Service - ACE Commuter Rail	\$825,000
03R51	Santa Clara Valley Transportation Authority	Bicycle Racks - Santa Clara County	\$100,000
03R55	Santa Clara Valley Transportation Authority	Retrofit - Install Filters on 6 Airport Flyer Shuttle Vehicles	\$43,000
03R47	Sonoma County Transit	Install Bicycle Racks on 50 Sonoma County Transit Buses	\$30,000
03R08	Town of Windsor	Class 2 Bicycle Lane: Windsor River Road	\$80,000
03R37	University of California, San Francisco	Bicycle Racks - Mission Bay Campus	\$5,500
03R38	University of California, San Francisco	Bicycle Racks - UCSF Shuttle Vehicles (20 Racks)	\$28,340
03R39	University of California, San Francisco	Shuttle Bus Service - Mission Bay BART 16th Street	\$71,000
		T O T A L: 40 projects	\$9,478,896

APPENDIX C: FY 2003/04 TFCA Program Manager Fund Projects

Proj#	Sponsor	Project Title	TFCA\$ Awarded
03ALA00	Alameda County CMA	Program Administration Cost	\$99,821
03ALA01	City of Albany	Class 2 Bicycle Lane - Marin Avenue	\$30,000
03ALA02	City of Berkeley	Berkeley BART Attended Bikestation	\$86,136
03ALA03	City of Emeryville	Class 2 Bicycle Lane - Doyle Street Greenway	\$50,000
03ALA04	City of Fremont	Class 2 Bicycle Lane - Fremont Boulevard	\$100,250
03ALA05	City of Pleasanton	Rides to School Ridesharing Program	\$21,474
03ALA06	City of Pleasanton	Citywide Rideshare Program	\$33,412
03ALA07	City of Fremont	Compressed Natural Gas Refueling Infrastructure	\$96,242
03ALA08	City of Oakland	Compressed Natural Gas Refueling Infrastructure	\$225,000
03ALA09	Livermore-Amador Valley Transportation Authority	ACE Shuttle Service - Pleasanton ACE Station to BART	\$41,474
03ALA10	Alameda County CMA	San Pablo Smart Corridor	\$220,199
03ALA12	AC Transit	Transit Bus Priority System - International Blvd.	\$500,000
03ALA13	Alameda CMA	Guaranteed Ride Home Program	\$231,200
03ALA14	City of Berkeley	City Car Share - East Bay Expansion	\$125,996
03ALA15	Livermore-Amador Valley Transportation Authority	ACE Shuttle Bus	\$83,934
03CC00	Contra Costa Transportation Authority	Program Administration Cost	\$68,348
03CC02	Central Contra Costa Transit Authority	Muir Road Transit Hub	\$92,922
03CC04	Contra Costa Commute Alternative Network	South County Employer Network	\$70,282
03CC05	Contra Costa Commute Alternative Network	Countywide Clean Fuel Vehicle Program	\$42,526
03CC06	City of Lafayette	Lamorinda School Bus Program	\$30,000
03CC07	Contra Costa Commute Alternative Network	South County School Ridematching Program	\$25,000
03CC08	Contra Costa Commute Alternative Network	Countywide Vanpool Incentive Program	\$70,000
03CC09	Contra Costa Commute Alternative Network	Central/East County Employer Network	\$96,000
03CC10	Contra Costa Commute Alternative Network	West/Central/East SchoolPool Program	\$72,370
03CC11	Contra Costa Commute Alternative Network	Countywide Transit Incentive Program	\$170,000
03CC12	Contra Costa Commute Alternative Network	Countywide Bicycle Rack/Locker Project	\$36,000
03CC13	Contra Costa Commute Alternative Network	Countywide Carpool Incentive Program	\$146,000
03CC14	Contra Costa Commute Alternative Network	West County Employer Network	\$63,000
03CC15	Contra Costa Commute Alternative Network	Countywide Guaranteed Ride Home Program	\$115,500

APPENDIX C: FY 2003/04 TFCA Program Manager Fund Projects

Proj#	Sponsor	Project Title	TFCA\$ Awarded
03CC16	Contra Costa Commute Alternative Network	West County Transit Incentive Program	\$43,342
03MAR00	Marin County CMA	Program Administration Cost	\$21,106
03MAR01	County of Marin	Countywide Bicycle & Pedestrian Safe Routes to Schools	\$500,000
03MAR02	County of Marin	Ride and Roll Program	\$98,675
03NAP00	Napa County Transportation Planning Agency	Program Administration Cost	\$5,000
03NAP01	City of Napa	Class 2 Bike Lane - Lincoln Ave	\$146,127
03NAP02	Napa County Transportation Planning Agency	Transit Bus Particulate Filters	\$63,000
03SC00	Santa Clara Valley Transportation Authority	Program Administration Cost	\$141,078
03SC01	City of Cupertino	Mary Ave Bicycle/Pedestrian Overcrossing at I-280	\$1,114,797
03SC02	City of Gilroy	Class 1 Bicycle Path - Uvas Creek Trail	\$363,000
03SC03	City of Milpitas	Coyote Creek Trail - 2.2 mi. Class I Bicycle Trail	\$95,000
03SC04	City of San Jose	Class 2 Bicycle Lanes - Total of 6.5 miles on 5 Streets	\$32,245
03SC05	City of San Jose	Signal Re-timing Project: 84 Intersections in 10 Corridors	\$283,000
03SC06	Santa Clara Valley Transportation Authority	Bus Signal Priority (Phase IIIa), VTA Line 22	\$320,000
03SC07	Santa Clara Valley Transportation Authority	VTA Light Rail Shuttle Program	\$380,000
03SC08	Santa Clara Valley Transportation Authority	Downtowm Area Shuttle (DASH) Retrofits	\$60,000
03SF00	San Francisco County Transportation Authority	Program Administration Cost	\$38,464
03SF01	Bay Area Rapid Transit District	16th Street BART Station Stair Channel	\$165,000
03SF02	Peninsula Corridor Joint Powers Board (Caltrain)	Bike Storage Facility at SF Caltrain Station	\$100,000
03SF03	Golden Gate Park Concourse Authority	Golden Gate Park Shuttle	\$71,000
03SF04	Presidio Trust	CNG Fueling Station Upgrade	\$100,000
03SF05	County of San Francisco	Clean Air Vehicle Replacement - 44 Light Duty Vehicles	\$149,000
03SF06	County of San Francisco	Fleet Management Bicycle Program	\$39,000
03SF07	County of San Francisco	Hall of Justice Shuttle	\$68,000
03SF08	County of San Francisco	Guaranteed Ride Home Program	\$25,000
03SF09	County of San Francisco	Broadway Tunnel Bicycle Improvements	\$26,000
03SF10	County of San Francisco	Install Racks to Hold 38 Bicycles at SF Main Library	\$27,000
03SF11	County of San Francisco	Class 2 Bicycle Lane - Potrero Avenue	\$175,000
03SF12	County of San Francisco	Crescent Avenue Bike Route Improvements	\$21,000
03SF13	San Francisco MUNI	Transit Signal Priority Emitters - 24 Buses	\$20,000
03SF14	San Francisco MUNI	Particulate Matter & NOx Devices	\$216,000

APPENDIX C: FY 2003/04 TFCA Program Manager Fund Projects

Proj#	Sponsor	Project Title	TFCA\$ Awarded
03SM00	San Mateo County CMA	Program Administration Cost	\$53,009
03SM01	San Mateo County Transit District	SamTrans Shuttle Bus Program	\$471,544
03SM02	City of Menlo Park	Mid-Day Shuttle	\$30,732
03SM03	Peninsula Congestion Relief Alliance	Voluntary Trip Reduction Program	\$736,464
03SOL00	Solano Transportation Authority	Program Administration Cost	\$18,760
03SOL01	City of Benicia	Electric Charging Station - Benicia City Hall	\$4,000
03SOL02	City of Fairfield	Electric Charging Station - Fairfield City Hall	\$4,000
03SOL03	City of Suisun City	Electric Charging Station - Amtrack Station and Civic Center	\$40,000
03SOL04	City of Vallejo	Electric Charging Station - Vallejo City Hall & Vallejo Ferry Terminal	\$12,000
03SOL05	Solano Transportation Authority	Route 30 Natural Gas Shuttle Bus	\$42,065
03SOL06	Solano/Napa Commuter Information	Expanded Ridesharing/Vanpool Program	\$295,000
03SON00	Sonoma County Transportation Authority	Program Administration Cost	\$30,000
03SON01	City of Petaluma	Traffic Signal Coordination	\$52,000
03SON02	City of Petaluma	Lease Electric Vehicles - 1 Vehicle	\$2,000
03SON03	City of Santa Rosa	Student Bus Pass Subsidy	\$70,000
03SON04	City of Santa Rosa	Voluntary Trip Reduction Program	\$159,373
03SON05	County of Sonoma	CNG Fueling Station Expansion	\$270,000
		T O T A L: 77 projects	\$10,240,867